

REMARKS

I. Introduction

With the addition of new claims 41 and 42, claims 21 to 42 are pending in the present application. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

Applicant notes with appreciation the acknowledgment of the claim for foreign priority and the indication that all certified copies of the priority documents have been received.

II. Information Disclosure Statement

Regarding the Information Disclosure Statement, the Examiner will note that submitted herewith is a Supplemental Information Disclosure Statement citing copies of the foreign patent documents that were indicated to have not been received and providing copies thereof.

III. Objection to the Specification

Regarding the objection to the Specification, the Examiner will note that the Specification has been amended herein to clarify the first sentence of the paragraph beginning on page 9, line 11. No new matter has been added. In view of the foregoing, withdrawal of this objection is respectfully requested.

IV. Objections to the Drawings

Regarding the objection to the drawings, the Examiner will note that Figure 1 has been amended herein to include text labels to the various boxes illustrated. No new matter has been added.

Regarding assignment unit 4, the Office Action seems to consider Figure 1 to show three separate assignment units. However, for clarity, Figure 1 shows an assignment unit 4 in three boxes to illustrate interaction of the assignment unit 4 with a multiplication unit 6 and a combination unit 8. As such, no modification to Figure 1 is believed to be required in this regard.

In view of the foregoing, withdrawal of the objections to the drawings is respectfully requested.

V. “Objection” to the Claims

The Office Action states that claims 21 to 40 are objected to due to “informalities” but does not in any manner identify or even suggest what those alleged informalities might be. While the proposed modified claims presented in the Office Action are appreciated, a clarification of the alleged informalities would be appreciated in the next Office communication. Notwithstanding the foregoing, new claims 41 and 42 correspond to the proposed modified claims 21 and 40 as presented in the Office Action.

VI. Rejection of Claims 28 and 29 Under 35 U.S.C. § 112, Second Paragraph

Claims 28 and 29 were rejected under 35 U.S.C. § 112, second paragraph as allegedly indefinite. While this rejection is not necessarily agreed with, to facilitate matters, claims 28 and 29 have been amended herein without prejudice to recite that a high-value part corresponds to an integer proportion of address values, thereby obviating any alleged indefiniteness of claims 28 and 29. In view of the foregoing, withdrawal of this rejection is respectfully requested.

VII. Rejection of Claims 21 to 24, 26, 27 and 30 to 40 Under 35 U.S.C. § 103(a)

Claims 21 to 24, 26, 27 and 30 to 40 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of U.S. Patent No. 5,079,549 (“Liessner”) and U.S. Patent No. 5,134,578 (“Garverick et al.”). It is respectfully submitted that the combination of Liessner and Garverick et al. does not render unpatentable the present claims for at least the following reasons.

Claim 21, for example, relates to a method for interpolating at least two position-dependent, periodic analog signals that are phase-shifted with respect to one another and which are generated by scanning a measuring scale, and claim 21 recites that the method includes converting each of the analog signals into a digital data stream by a sigma-delta modulator. Claim 40 relates to a device for interpolating at least two position-dependent, periodic analog signals that are phase-shifted with respect to each other and which are generated by scanning a measuring scale, and recites that the device includes a sigma-delta modulator configured to convert the analog signals to a respective digital data stream. The Office Action plainly admits on page 7 that Liessner does not disclose the converting step of claim 21 or the sigma-delta modulator of claim 40.

However, the Office Action refers to Garverick et al. for disclosing sigma-delta analog to digital converters. The Office Action's reference to Garverick et al. is not entirely understood, since the entire functionality and structure described by Liessner is analog and not in any manner digital. In this regard, Liessner describes that the input signal to the system is an analog representation of a displacement and that an encoder 10 provides analog signals to multipliers 12, 14. Col. 3, lines 15 to 21. Liessner further describes that each multiplier 12, 14 provides an analog signal to adder 20. Col. 3, lines 41 to 44. Thus, there is no disclosure, or even any suggestion, by Liessner of converting analog signals, which are generated by scanning a measuring scale, into a digital data stream by a sigma-delta modulator, or otherwise, or a sigma-delta modulator configured to convert analog signals, which are generated by scanning a measuring scale, to respective digital data streams. Furthermore, the only conversion described by Liessner between analog and digital signals is in connection with multipliers 12, 14, which are described by Liessner as being digital-to-analog (not analog-to-digital) converters that cause a digital input to attenuate an analog current reference signal. Thus, Liessner in no manner describes, or even suggests, an analog-to-digital conversion. Indeed, even the output signal ES is described by Liessner as being an analog error signal. Col. 3, lines 43 to 44. There is no discussion whatsoever by Liessner of whether, how or even why any of the analog devices might be modified to digital devices or whether or how digital data streams might be handled. Reference to sigma-delta analog to digital converters in Garverick et al. does not in any manner cure this critical deficiency of Liessner.

Based on the foregoing, it is plainly apparent that the combination of Liessner and Garverick et al. does not disclose, or even suggest, all of the features included in claims 21 and 40. As such, the combination of Liessner and Garverick et al. does not render unpatentable claims 21 and 40. Furthermore, the Office Action does not set forth sufficient rationale to support the contention that claims 21 and 40 are rendered unpatentable by the combination of Liessner and Garverick et al. in accordance with KSR International Co. v. Teleflex Inc., 550 U.S. ___, 82 U.S.P.Q. 1385 (2007) or the "Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in View of the Supreme Court Decision in KSR International Co. v. Teleflex Inc.," 72 Fed. Reg. 57526 (Oct. 10, 2007). Thus, in view of all of the

foregoing, it is respectfully submitted that the combination of Liessner and Garverick et al. does not render unpatentable claims 21 and 40.

As for claims 22 to 24, 26, 27 and 30 to 39, which ultimately depend from claim 21 and therefore include all of the features included in claim 21, it is respectfully submitted that the combination of Liessner and Garverick et al. does not render unpatentable these dependent claims for at least the reasons more fully set forth above in support of the patentability of claim 21.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

VIII. Rejection of Claim 25 Under 35 U.S.C. § 103(a)

Claim 25 was rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Liessner, Garverick et al. and that which the Office Action considers to constitute admitted prior art. As an initial matter, Applicant does not necessarily agree with the contention that the Specification contains an admission that "low-pass filtering and assignment of the address values is well known in the art." Notwithstanding the foregoing, it is respectfully submitted that the combination of Liessner, Garverick et al. and the alleged admitted prior art does not render unpatentable claim 25 for the following additional reasons.

Claim 25 ultimately depends from claim 21 and therefore includes all of the features included in claim 21. As more fully set forth above, the combination of Liessner and Garverick et al. does not render unpatentable claim 21, from which claim 25 ultimately depends. The alleged admitted prior art does not cure the critical deficiencies of the combination of Liessner and Garverick et al. As such, the combination of Liessner, Garverick et al. and the alleged admitted prior art does not render unpatentable claim 25, which ultimately depends from claim 21. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988) (any dependent claim that depends from a non-obvious independent claim is non-obvious).

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

IX. New Claims 41 and 42

New claims 41 and 42 have been added herein. It is respectfully submitted that claims 41 and 42 add no new matter and are fully supported by the

present application, including the Specification. Since claims 41 and 42 include features analogous to features included in claims 21 and 40, respectively, it is respectfully submitted that claims 41 and 42 are patentable over the references relied upon for at least the reasons more fully set forth above.

X. Conclusion

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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